a2 4. (Once Amended) The method of Claim 1, wherein said agent is administered so that γδ T cells in said mammal are activated.

a3 14. (Once Amended) The method of Claim 1, wherein said agent is tumor necrosis factor-α (TNF-α).

a4 17. (Once Amended) The method of Claim 1, wherein said agent is targeted to γδ T cells in said mammal.

18. (Reiterated) The method of Claim 17, wherein said agent is targeted to γδ T cells in the lung tissue of said mammal.

19. (Reiterated) The method of Claim 17, wherein said agent is targeted to γδ T cells having a T cell receptor (TCR) selected from the group consisting of a murine TCR comprising Vγ4 and a human TCR comprising Vγ1.

a5 22. (Once Amended) The method of Claim 1, wherein said agent is administered to the lung tissue of said mammal.

23. (Reiterated) The method of Claim 22, wherein said agent is administered by a route selected from the group consisting of inhaled, intratracheal and nasal routes.

a6 24. (Once Amended) The method of Claim 1, wherein said agent is administered to said animal in an amount effective to reduce airway hyperresponsiveness in said animal as compared to prior to administration of said agent.

25. (Once Amended) The method of Claim 1, wherein said agent is administered with a pharmaceutically acceptable excipient.

26. (Once Amended) The method of Claim 1, wherein said agent is administered within between about 1 hour and 6 days of an initial diagnosis of airway hyperresponsiveness in said mammal.

27. (Once Amended) The method of Claim 1, wherein said agent is administered within less than about 72 hours of an initial diagnosis of airway hyperresponsiveness in said mammal.

28. (Once Amended) The method of Claim 1, wherein said agent is administered prior to development of airway hyperresponsiveness in said mammal.

29. (Reiterated) The method of Claim 1, wherein said step of increasing γδ T cell action decreases airway methacholine responsiveness in said mammal.

30. (Reiterated) The method of Claim 1, wherein said step of increasing γδ T cell action reduces airway hyperresponsiveness of said mammal such that the FEV_1 value of said mammal is improved by at least about 5%.

31. (Reiterated) The method of Claim 1, wherein said step of increasing γδ T cell action improves said mammal's $PC_{20methacholine}FEV_1$ value such that the $PC_{20methacholine}FEV_1$ value obtained before said step of increasing γδ T cell action when the mammal is provoked with a first concentration of methacholine is substantially the same as the $PC_{20methacholine}FEV_1$ value obtained after increasing γδ T cell action when the mammal is provoked with double the amount of the first concentration of methacholine.

32. (Reiterated) The method of Claim 31, wherein said first concentration of methacholine is between about 0.01 mg/ml and about 8 mg/ml.

33. (Reiterated) The method of Claim 1, wherein said airway hyperresponsiveness is associated with a disease selected from the group consisting of chronic obstructive disease of the airways and asthma.

Please add the following new Claims 36-38.

36. (Added) A method to reduce airway hyperresponsiveness in a mammal, comprising increasing γδ T cell action in a mammal that has, or is at risk of developing, a respiratory condition associated with airway hyperresponsiveness by administering a composition consisting essentially of tumor necrosis factor-α (TNF-α) to said mammal.

37. (Added) The method of Claim 36, wherein said TNF-α is administered to the lungs of said mammal.

38. (Added) A method to reduce airway hyperresponsiveness in a mammal, comprising increasing γδ T cell action in a mammal that has, or is at risk of developing, a respiratory condition associated with airway hyperresponsiveness by administering an agent that activates γδ T cells to said mammal, wherein said agent is administered either prior to development of airway hyperresponsiveness in said mammal or within between about 1 hour and 6 days of an initial diagnosis of airway hyperresponsiveness in said mammal.